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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/722,440	11/28/2000	Piero Pollesello	1102.0250003/JMC	5322

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EXAMINER

KAM, CHIH MIN

ART UNIT	PAPER NUMBER
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1653

DATE MAILED: 01/02/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/722,440

Applicant(s)

POLLESELLO ET AL.

Examiner

Chih-Min Kam

Art Unit

1653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9 and 11-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9, 11 and 12 is/are allowed.
- 6) ☒ Claim(s) 13-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Status of the Claims

1. Claims 9 and 11-19 are pending.

Applicants' amendment filed October 3, 2001 (Paper No. 6) has been entered, applicants' response and amendment have been fully considered. Claim 10 has been cancelled, claim 9 has been amended, and new claims 11-19 have been added.

Rejection Withdrawn

Informalities

2. The previous objection to the disclosure is withdrawn in view of corrections being made at pages 11 and 12 of the specification.

Claim Objections

3. The previous objection to claim 9 is withdrawn in view of SEQ ID NO:8 being added to the claim.

Claim Rejections - 35 USC § 112

4. The previous rejection of claims 9 and 10, under 35 U.S.C.112, second paragraph, is withdrawn in view of applicants' cancellation of claim 10, applicants' amendment to claim 9, and applicants' response at page 5 in Paper No. 6.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 13-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 13-16 are indefinite because they lack essential steps in the process of identifying a phospholamban deactivator. The omitted steps are: obtaining three dimensional structure of phospholamban (PLB) cytosolic domain, identifying the ligand binding site of PLB cytosolic domain in the model of the complex of the cyclic peptide and phospholamban cytosolic domain, identifying compounds interacting with the ligand binding site of phospholamban cytosolic domain, and testing the compounds for the activation of CaATPase in the presence of phospholamban.

6. Claims 17-19 are indefinite because they lack essential steps in the process of identifying an area on the surface of phospholamban that function as a target area to which a phospholamban deactivator binds. The omitted steps are: obtaining three dimensional structure of PLB cytosolic domain, and obtaining the model of the complex of the cyclic peptide and phospholamban cytosolic domain.

7. Claim 14 is indefinite because of the use of the terms "derived from said model" and "to identify one or more said phospholamban deactivator". The terms "derived from said model" and "to identify one or more said phospholamban deactivator" render the claim indefinite, it is not clear how different the distance measurements and electrostatic properties for the phospholamban deactivator as compared to those in the model, what the model is, e.g., is it the

Art Unit: 1653

cyclic peptide or the complex of the cyclic peptide and phospholamban, and how many phospholamban deactivators are identified.

8. Claims 15 and 17-19 are indefinite because of the use of the term "one or more molecular modeling techniques". The term "one or more molecular modeling techniques" renders the claim indefinite, it is not clear how many molecular modeling techniques are used, and what are these molecular modeling techniques. Claims 18 and 19 are included in this rejection for being dependent on a rejected claim and not correcting the deficiency of the claim from which they depend.

9. Claims 17-19 are indefinite because of the use of the terms "can function" and "can bind". The terms "can function" and "can bind" render the claim indefinite, it is not clear to what extent the surface of phospholamban functions as a target area, and to what extent a phospholamban deactivator binds to the target area. Claims 18 and 19 are included in this rejection for being dependent on a rejected claim and not correcting the deficiency of the claim from which they depend.

10. Claim 19 is indefinite because of the use of the term "one or more amino acid side chains of phospholamban". The term "one or more amino acid side chains of phospholamban" renders the claim indefinite, it is not clear how many amino acid side chains of phospholamban in the area that interact with the cyclic peptide.

Conclusion

11. Claims 13-19 are rejected, it appears that claims 9, 11 and 12 are allowable except for the issue of compliance to the sequence rules. These claims contain an "X" in the sequence recited in the claims which should be an "Xaa". See the sequence listing.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chih-Min Kam whose telephone number is (703) 308-9437. The examiner can normally be reached on 8.00-4:30, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low, Ph. D. can be reached on (703) 308-2923. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-0294 for regular communications and (703) 308-4227 for After Final communications.

Application/Control Number: 09/722,440

Page 6

Art Unit: 1653

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0196.

Chih-Min Kam, Ph. D. *CMK*
Patent Examiner

December 20, 2001

Christopher S. F. Low

CHRISTOPHER S. F. LOW
SUPERVISORY PATENT EXAMINER
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